Network Testing should Drive Value

Romanian Network Operators Group Conference

Bucharest, Romania October 2015

We connect.

Overview

Company profile

- AFL is a subsidiary of Fujikura Japan $6 billion
- Core business is the manufacturer of fibre optic related products
- 4,600 people worldwide

Focus of this Presentation

- Perspectives and observations on Network Testing
- How this influenced our Next-Gen Product Architecture
- Introduction to Rogue™ and aeRos™

How is testing viewed within our industry?

Network designers, planners and operators

- Forms part of our statement of requirements
- Closing step in the network build
- Serves as a reference

Cable, transmission and test equipment manufacturers

- Measures performance
- Provides conformance to specifications
- Good practices prevent future network issues

Cabling and network installation teams

- Time consuming
- Configurations and record keeping is complex
- Considered a cost centre especially for contractors

Network Testing within a wider context

Core stages within a network build process…

Planning → Construction → **Testing** → Commissioning → Maintenance

Network planning and design

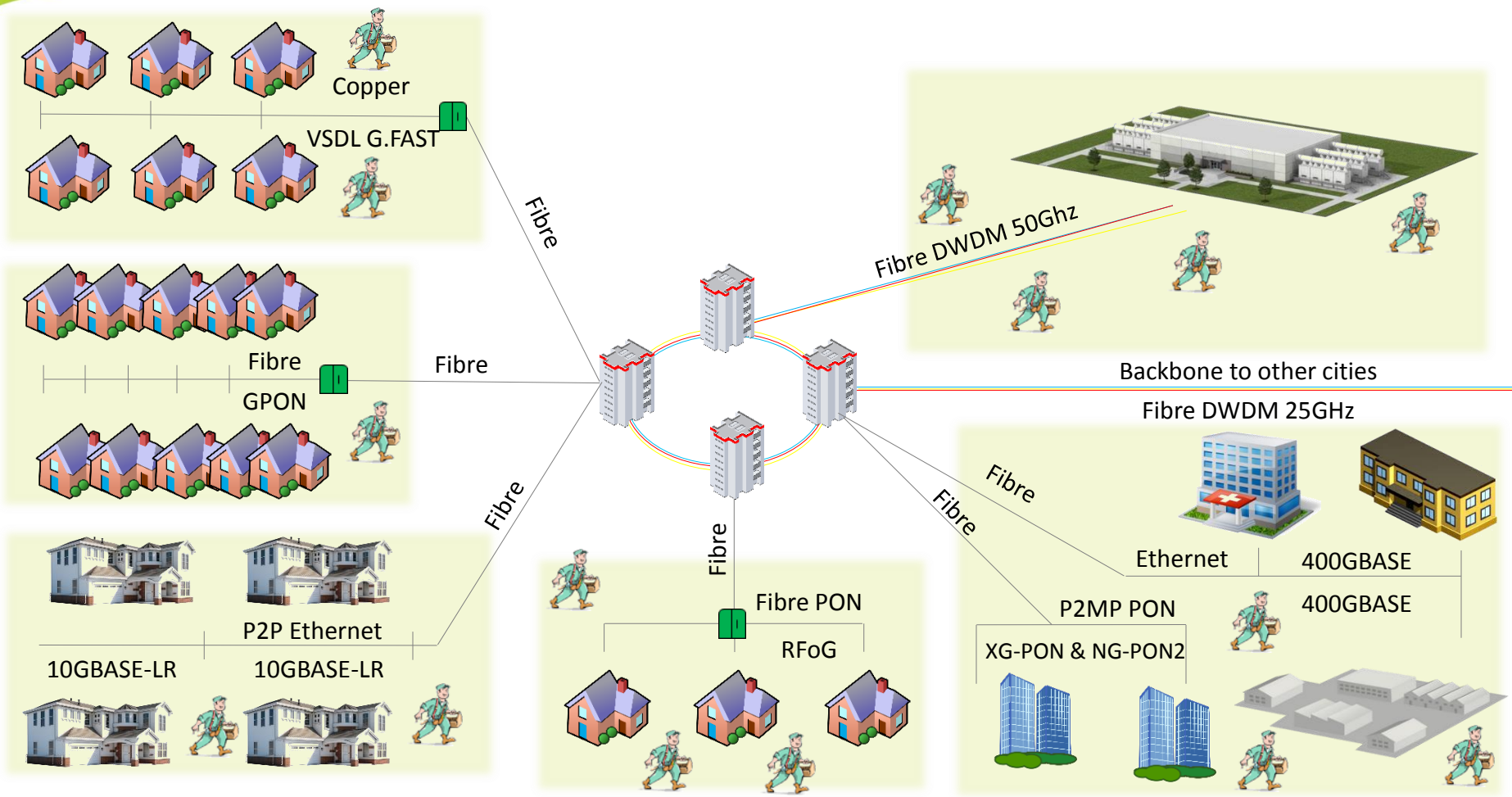
Cable Installation team

Network (transmission) installation team

Network operator

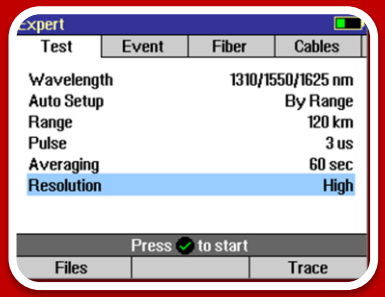
Testing can be seen as **time consuming and complex** due to the information that is required to make meaningful measurements in the appropriate format.

Performing Network Testing in the field



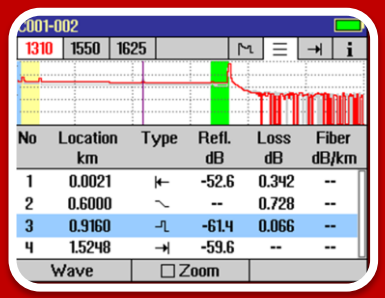
Even with test requirements available dispatching information to technicians in the field is **challenging**

The technicians **challenge**



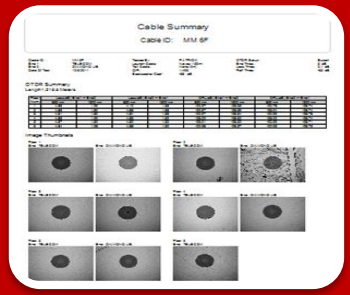
Configuration of the Test Equipment

- Identification of cabling infrastructure
- Test setups
- Test limits (PASS / FAIL)



Making sense of the measurements

- Navigating within the user interfaces
- Understanding results and resolving failed links
- Getting support from team members



Getting results back from the field

- What format should they be saved
- Where and how should they be sent

Next-Gen Product architecture

Design goal

To devise a solution that reduced the overall cost of testing from a CAPEX (product level) and OPEX (systems level) perspective to drive value.

Guiding principles

1. We need to consider how testing can better integrate into the wider context of building and maintaining networks
2. Our solution must integrate with the workflow of a cable installation team without the need to chase information required to perform testing
3. Technicians should not be faced with complex user interfaces, test configurations and transferring results

Technology strategy

- **Smart devices** should be used for connectivity and customized Test Apps to reduce UI complexities
- Remote configuration and storage could be facilitated using the **cloud**
- An **open modular** test platform would allow for flexibility and other parties to design hardware
- **Integration** with a wider operational support system (OSS) should be possible

Introducing…

aeros

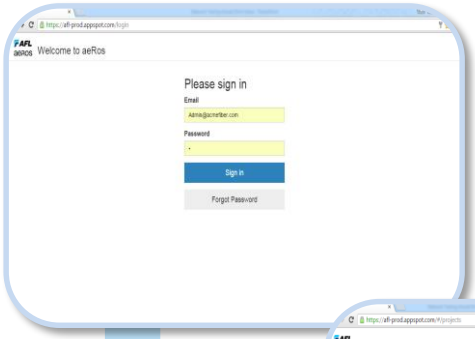
Cloud-Based Workflow Management

AFL's next generation modular test suite

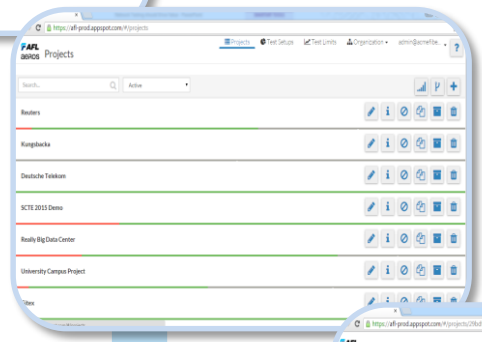
ROGUE

Testing Outside the Box

aeRos™ project setup & configuration

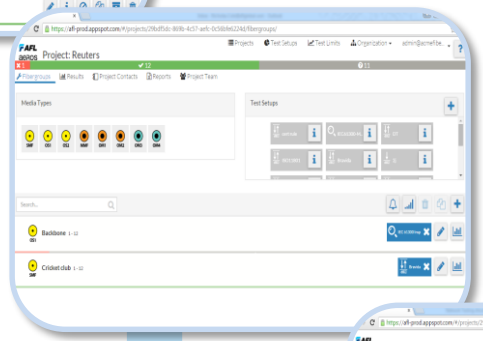


Log in



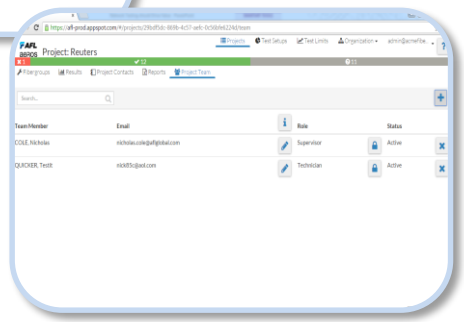
Project dashboard

- Create new projects
- Track status of existing projects
- Archive



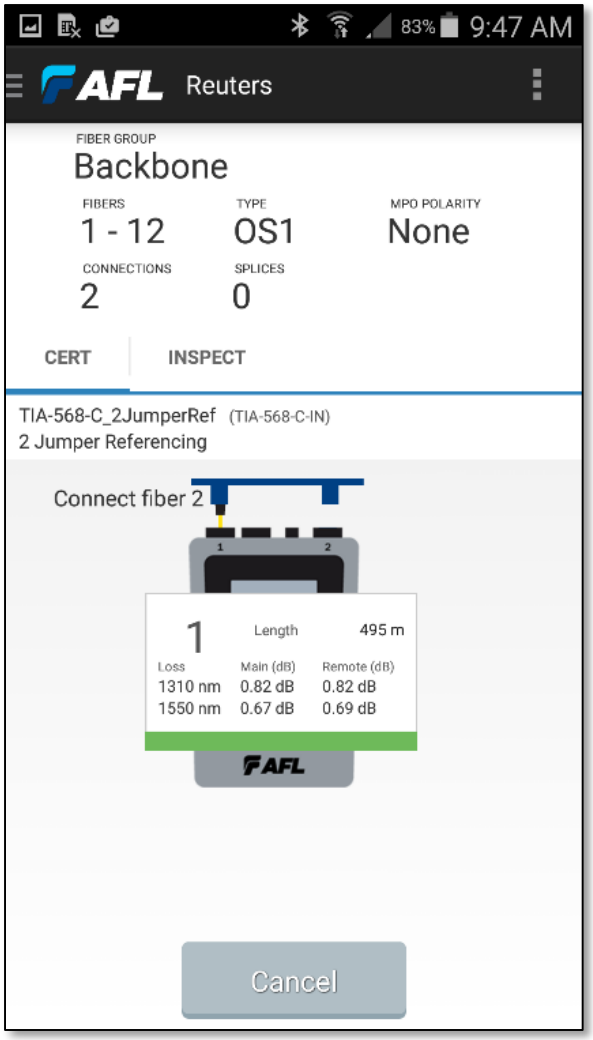
Build and configure tests

- Create new cables / fibre groups
- Assign test setups and limits



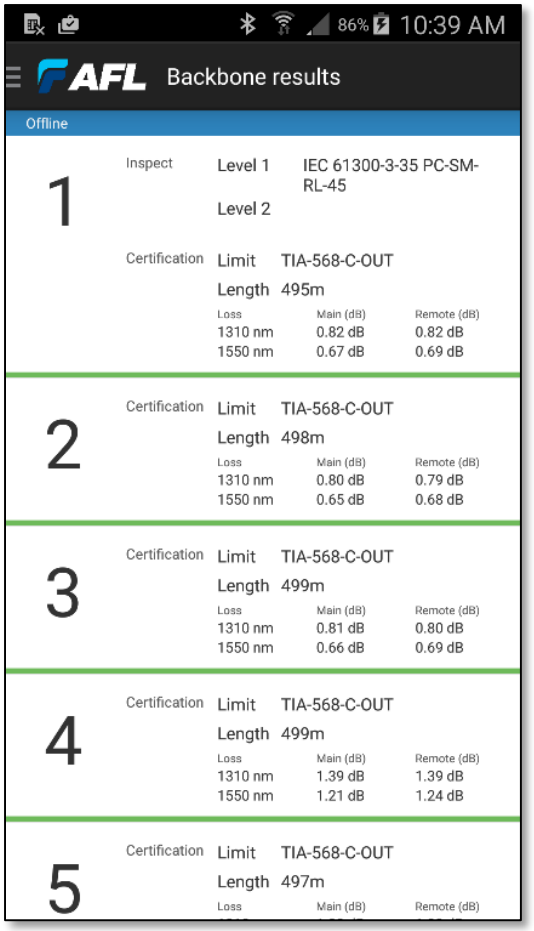
Send to installation team

ROGUE™ TEST APP

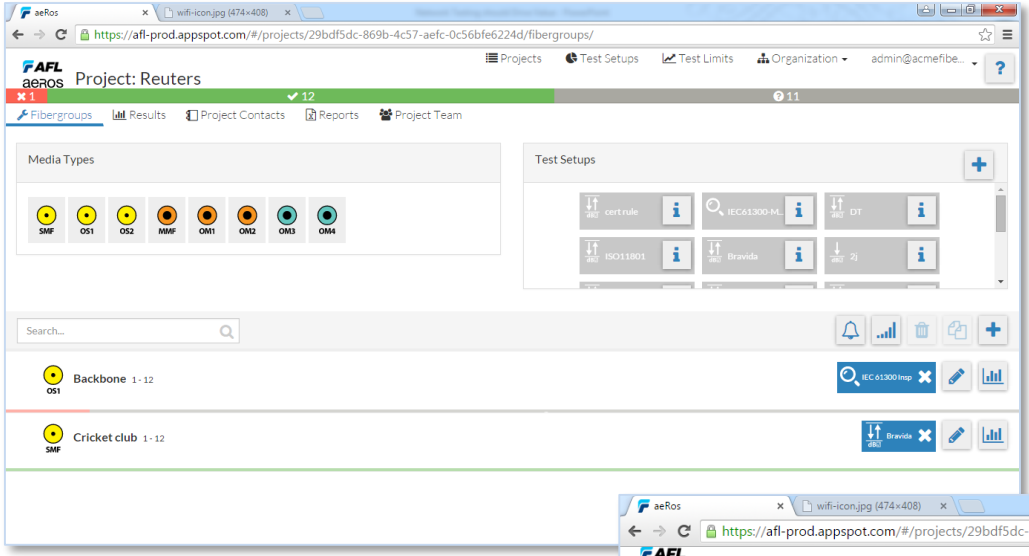


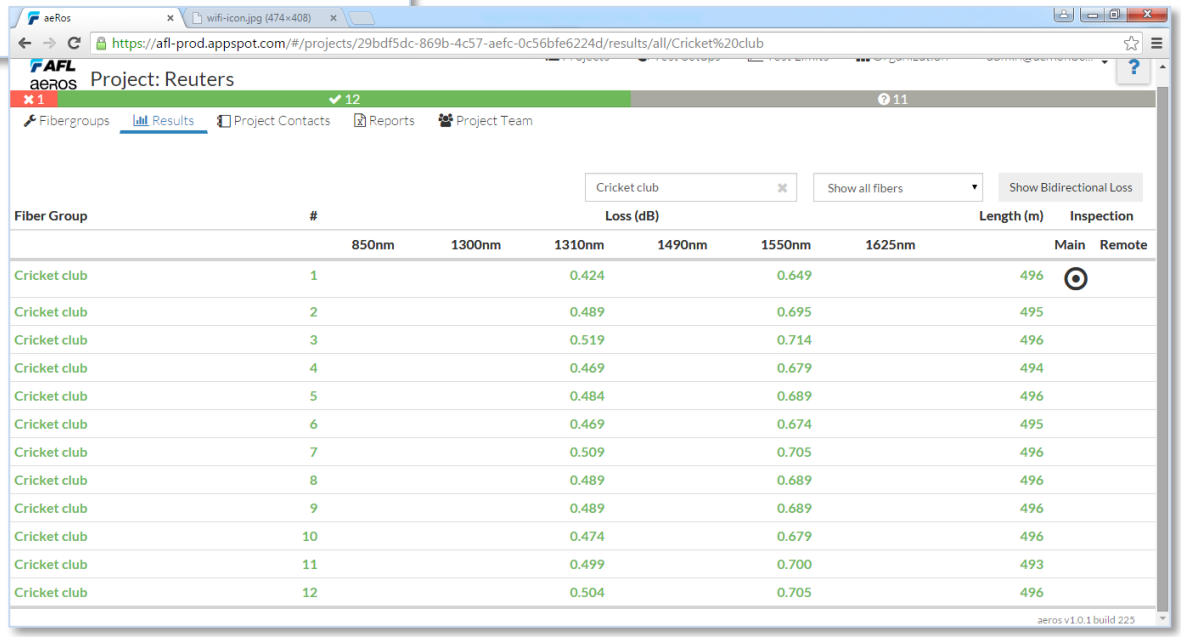
ROGUE™ CARRIER

ROGUE™ TEST APP



AEROS™ tracking & results storage





Fiber Group	#	Loss (dB)						Length (m)	Inspection	
		850nm	1300nm	1310nm	1490nm	1550nm	1625nm		Main	Remote
Cricket club	1			0.424		0.649		496	◉	
Cricket club	2			0.489		0.695		495		
Cricket club	3			0.519		0.714		496		
Cricket club	4			0.469		0.679		494		
Cricket club	5			0.484		0.689		496		
Cricket club	6			0.469		0.674		495		
Cricket club	7			0.509		0.705		496		
Cricket club	8			0.489		0.689		496		
Cricket club	9			0.489		0.689		496		
Cricket club	10			0.474		0.679		496		
Cricket club	11			0.499		0.700		493		
Cricket club	12			0.504		0.705		496		

Thank you

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We connect.